

OIB - P-3 Orion - WFF 05/07/19 Science Report

Aircraft: [P-3 Orion - WFF \(See full schedule\)](#)

Date: Tuesday, May 7, 2019

Mission: OIB

Mission Location: Kangerlussuaq, Greenland

Mission Summary:

Mission: Jakobshavn-Eqip-Store

Priority: Baseline

This baseline mission was last flown in 2017 (although two of its upper lines were flown in 2018) and surveys two ICESat-2 tracks of varying time latency. This flight not only extends coverage of ICESat legacy tracks and ICESat-2 tracks within the upper Jakobshavn catchment, it also surveys the centerlines of several glaciers to the north. One of the IS-2 tracks was swapped (see notes below) to minimize the timing between OIB and IS-2 data collection (the attached map has been updated accordingly).

The first half of the mission was nothing short of spectacular! Flying the centerlines of Rink and Kangerdlugssup glaciers, along with the fjord that connects their fronts, got the entire plane to their feet to vie for a view from the limited number of windows on the P-3. We observed many seal holes and some polar bear tracks, but did not actually see any wildlife. Even the beautiful stratigraphy visible in the fjord walls was noted by many. Although significant amounts of meltwater was present on all glacier runs, the ponding to the south generated some of the biggest lakes that OIB has observed thus far.

Over much of the flight, we encountered no low-lying clouds. Most of the time, the clouds were high and scattered; however, fog in the easternmost reaches of the interior ICESat segments resulted in some signal loss. Headwall SWIR was unable to be operated today, but otherwise all instruments worked well. ATM estimates 90% data recovery. We performed a ramp pass at 3500' prior to landing.

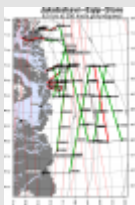
ICESat-2 Tracks (+/- indicates OIB surveyed after/before ICESat-2)

0666, - 4 days

0536, + 4 days

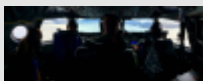
Images:

Map of today's mission



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View from the P-3 cockpit over Rink Glacier



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Kangerdlussup Glacier flows to the right and bends around "Half Dome"



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Surface meltwater accumulates in crevasses over Kangerdlussup Glacier



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A small glacier with well-defined medial moraines joins the trunk of the



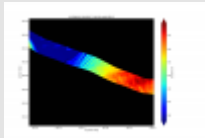
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Castle-like iceberg floats alone in the narrow portion of the fjord



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ATM T6 plot of surface elevation over the Epiq Sermia calving front (



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CAMBOT image of small village along the fjord



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Submitted by: Brooke Medley on 05/23/19

Related Flight Report:

P-3 Orion - WFF 05/07/19

Flight Number: 2019 OIB Science Flight #18

Payload Configuration: Operation IceBridge

Nav Data Collected: No

Total Flight Time: 8.5 hours

Submitted by: Mike Cropper on 05/07/19

Flight Segments:

From:	BGSF	To:	BGSF
Start:	05/07/19 08:10 Z	Finish:	05/07/19 16:40 Z
Flight Time:	8.5 hours		
Log Number:	19P017	PI:	Joseph MacGregor
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		

Flight Hour Summary:

	19P017
Flight Hours Approved in SOFRS	250
Total Used	216.3
Total Remaining	33.7

19P017 Flight Reports						
Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
03/26/19	#2053: 2019 OIB ATF	Check	0.9	0.9	249.1	0
03/27/19	#2059: 2019 OIB PTF-Laser	Check	2.3	3.2	246.8	0
03/28/19	#2061: 2019 OIB PTF-Radar	Check	3.2	6.4	243.6	0
04/01/19	#2068: 2019 OIB WFF-BGTL Transit Flight	Transit	6.9	13.3	236.7	2458
04/03/19	#2070: 2019 OIB Science Flight #1	Science	7.6	20.9	229.1	1938
04/05/19	#2072: 2019 OIB Science Flight #2	Science	7.7	28.6	221.4	1910
04/06/19	#2073: 2019 OIB Science Flight #3	Science	7.2	35.8	214.2	2000
04/08/19	#2075: 2019 OIB Science Flight #4	Science	6.9	42.7	207.3	1780
04/09/19	#2076: 2019 OIB Science Flight #5	Science	7.8	50.5	199.5	2045
04/10/19	#2081: 2019 OIB Science Flight #6	Science	10.1	60.6	189.4	2702
04/11/19	#2082: BGSF-BGTL Transit	Transit	2.2	62.8	187.2	696
04/12/19	#2083: 2019 OIB Science Flight #7	Science	7.2	70	180	2109
04/15/19	#2086: 2019 OIB Science Flight #8	Science	4.8	74.8	175.2	1243
04/16/19	#2087: 2019 OIB Science Flight #9	Science	7.6	82.4	167.6	2036
04/17/19	#2088: 2019 OIB Science Flight #10	Science	7.7	90.1	159.9	1937
04/18/19	#2090: 2019 OIB Science Flight #11	Science	7.8	97.9	152.1	2008
04/19/19	#2091: 2019 OIB Science Flight #12	Science	7.6	105.5	144.5	2104
04/20/19	#2092: 2019 OIB Science Flight #13	Science	6.9	112.4	137.6	0

04/22/19	#2094: 2019 OIB Science Flight #14	Science	6.6	119	131	1867
04/23/19	#2099: 2019 OIB Science Flight #15	Science	7.7	126.7	123.3	1979
04/25/19	#2102: 2019 OIB BGTL-KBGR Transit Flight	Transit	6.2	132.9	117.1	0
04/26/19	KBGR to BGST Transit	Transit	5.7	138.6	111.4	0
05/05/19	2019 OIB Science Flight #16	Science	7.8	146.4	103.6	0
05/06/19	2019 OIB Science Flight #17	Science	8.4	154.8	95.2	0
05/07/19	2019 OIB Science Flight #18	Science	8.5	163.3	86.7	0
05/08/19	2019 OIB Science Flight #19	Science	8	171.3	78.7	0
05/12/19	2019 OIB Science Flight #20	Science	9	180.3	69.7	0
05/13/19	2019 OIB Science Flight #21	Science	7	187.3	62.7	0
05/14/19	2019 OIB Science Flight #22	Science	7.9	195.2	54.8	0
05/15/19	2019 OIB Science Flight #23	Science	8.3	203.5	46.5	0
05/16/19	2019 OIB Science Flight #24	Science	6.3	209.8	40.2	0
05/17/19	2019 OIB Transit	Transit	6.2	216	34	0
05/17/19	2019 OIB Transit	Transit	0.3	216.3	33.7	0

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

Page Last Updated: April 22, 2017

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NASA Official: Marilyn Vasques

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